

# Illegal discharges of untreated sewage to the River Teifi Catchment

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From its source in the Cambrian Mountains at Llyn Teifi, the River Teifi flows through a wide plain that floods each winter, finally entering Cardigan Bay 122 kms later. The Teifi Catchment includes coastal cliffs, rocky gorges, river meadows, tree lined-river banks, bogs, marshes and mountain lakes, attracting large numbers of visitors. Between Llyn Teifi and its tidal limit near Cilgerran, it is a SAC (Special Area of Conservation) and afforded special protection in law for water crowfoot, lamprey, bullhead, otter and Atlantic salmon<sup>1</sup>. The following tributaries of the Teifi are within the SAC: Cych, Ceri, Tyweli, Clettwr, Grannell, Dulas and Groes. Cardigan Bay hosts grey seals, porpoises and one of only two groups of bottlenose dolphins resident in the UK.

The Teifi valley is mainly rural with agriculture and forestry accounting for the majority of land usage. Therefore, agricultural sources of phosphate and nitrate will undoubtedly contribute to eutrophication in the Teifi Catchment. However, the detection, regulation and subsequent prosecution of illegal agriculture related diffuse pollution is much more challenging than it is for illegal sewage related pollution from point sources. The latter is the focus of this report.

## Executive summary

- The River Teifi Catchment, including a Special Area of Conservation, was exposed to untreated sewage discharges for over 65,000, 45,000 and 42,000 hours in 2020, 2021 and 2022 respectively
- Cardigan STW made illegal untreated sewage discharges on 1,146 days between 2017 and 2023 by spilling before the works reaches capacity
- Dŵr Cymru Welsh Water (DCWW) has failed to eradicate seawater infiltration at Cardigan STW resulting in thousands of illegal untreated sewage discharges for at least 10 years
- Environmental Regulator Natural Resources Wales (NRW) has served two enforcement notices in relation to untreated sewage discharges from Cardigan STW but has not prosecuted DCWW

## Historical references to sewage pollution in the River Teifi catchment

The following historical references to sewage pollution in the River Teifi catchment are by no means exhaustive, given the short time in which this report has been composed, but they are informative.

1943 From a detailed academic survey of the fauna of the River Teifi by JR Erichsen Jones:

*“The river probably receives a certain amount of sewage pollution, but its valley is not thickly inhabited, and as far as the writer is aware there is no evidence to suggest that such pollution is in any degree excessive ... The river has suffered little or no pollution of any kind and possesses a rich fauna and flora.”*

1970 South West Wales River Authority:

*“The river Breninig at Tregaron is seriously polluted by the discharge of untreated sewage from the village and part is placed within Class IV”* (grossly polluted).<sup>2</sup>

1996 Natural Resources Wales (NRW) recorded concerns<sup>3</sup> about sewage pollution as follows:

*“Premature discharges from CSOs and pumping stations within the Cardigan sewerage system, together with numerous illegal cross connections within the town, lead to unacceptable aesthetic impacts, both within the Teifi estuary and the lower reaches of the Mwldan”*

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<sup>1</sup> <https://naturalresources.wales/media/670702/Afon%20Teifi%20%20River%20Teifi%20Management%20Plan.pdf>

<sup>2</sup> <http://www.environmentdata.org/archive/ealit:3463/OBJ/20002476.pdf>

<sup>3</sup> <http://www.environmentdata.org/archive/ealit:3464/OBJ/20002485.pdf>

- 2008 The Environment Agency (EA) identified high oestrogen levels in Teifi tributaries suggesting some are *at risk* status downstream of STWs<sup>4</sup>. The incidence and severity of intersex (feminised male) fish is positively correlated with the proportion of treated human sewage waters.
- 2014 NRW classification graded Teifi catchment watercourses as moderate or good overall, on a bad-poor-moderate-good-high scale<sup>5</sup>, except the River Mwldan was graded as bad and the Dulas and Morgenau as poor. Discharges from STWs were cited as likely causes.
- 2015 NRW classification of Teifi catchment watercourses graded 22% as good overall, 67% as moderate and 11% (Ceri, Hirwaun, Mwldan and Margenau) as poor.
- 2016 200,000 litres of pollutant were leaked to the River Teifi from an anaerobic digestion plant near Tregaron and killed some 18,000 fish along a 8 km stretch<sup>6</sup>. Fish Legal investigations found **a litany of regulatory failures** both before and after the incident. Pencefn Feeds Ltd, operators of the plant, were prosecuted and fined £40,000 in 2019. *This might be contrasted with £2,000 costs for an angler in 2023 prosecuted by NRW for illegally catching 6 fish in the River Teifi at Lampeter<sup>7</sup> – pro rata costs for the 18,000 fish kill would be £6m.*
- 2019 NRW classification of Teifi catchment watercourses graded 43% as good overall, 49% as moderate and 8% (Ceri, Hirwaun and Mwldan) as poor.
- 2021 The RSPB report *Troubled Waters* cited NRW's Teifi waterbody classification for 2015 rather than 2019 and quoted an outdated **2010** Countryside Council for Wales *Management Plan*<sup>8</sup> for the Teifi SAC as *the most significant sources of diffuse pollution and siltation are from agriculture.*
- 2022 Community group "Save the Teifi"<sup>9</sup> held its inaugural meeting in August and has organised regular meetings since with interested parties including DCWW and NRW.
- 2023 Local concerns about the state of the River Teifi prompted the submission of a petition to the Senedd<sup>10</sup> with the following justification:

- Levels of pollution on the Teifi are high. Numbers of salmon, otter and other aquatic life are in serious decline.
- The Teifi is a Special Area of Conservation that is under threat from pollution and climate change. Data provided by Natural Resources Wales indicate that its poor water quality means 78% of the water bodies in the catchment are classified as poor or moderate under the Water Framework Assessment.
- Similarly, large sections of the river are failing phosphate target levels and a study by Natural Resources Wales indicates the Salmon and Lamprey populations are at risk of extinction in the next 15 years.
- Climate change has resulted in low water levels in spring and higher water temperatures which have enhanced the growth of algal blooms and depleted oxygen levels in the water.
- In 2022 the river experienced 1,889 sewage spills from combined sewage outfalls which lasted 14,079 hours, the 6th worst river in England and Wales for sewage spill duration.

The petition calls on Senedd to act:

*to increase the effectiveness of Natural Resources Wales in halting pollution on the Teifi.*

<sup>4</sup> <https://nora.nerc.ac.uk/id/eprint/2810/1/SCHO0308BNVO-e-e.pdf>

<sup>5</sup> <https://cdn.cyfoethnaturiol.cymru/media/3215/teifi-and-north-ceredigion-management-catchment.pdf?mode=pad&rnd=131625760770000000>

<sup>6</sup> <https://afonyddcymru.org/a-case-study-catastrophic-pollution/>

<sup>7</sup> <https://www.walesonline.co.uk/news/wales-news/man-who-illegally-caught-six-26066078>

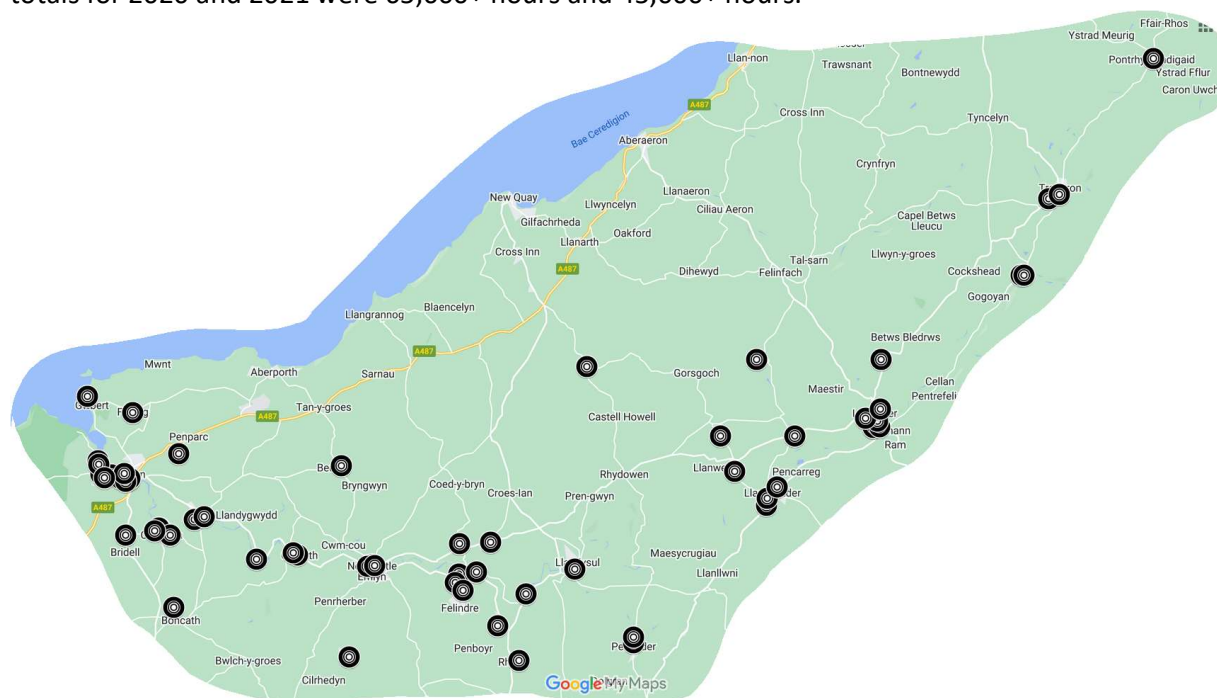
<sup>8</sup> <https://naturalresources.wales/media/670702/Afon%20Teifi%20%20River%20Teifi%20Management%20Plan.pdf>

<sup>9</sup> <https://teifi.one/>

<sup>10</sup> <https://petitions.senedd.wales/petitions/245501>

## Discharges of untreated sewage to the Teifi Catchment 2020 to 2022

In 2022, the Teifi Catchment received untreated sewage discharges from at least 63 storm overflows for 42,531 hours directly or indirectly via tributaries (Fig. 2) (Table 1). Corresponding totals for 2020 and 2021 were 65,000+ hours and 45,000+ hours.

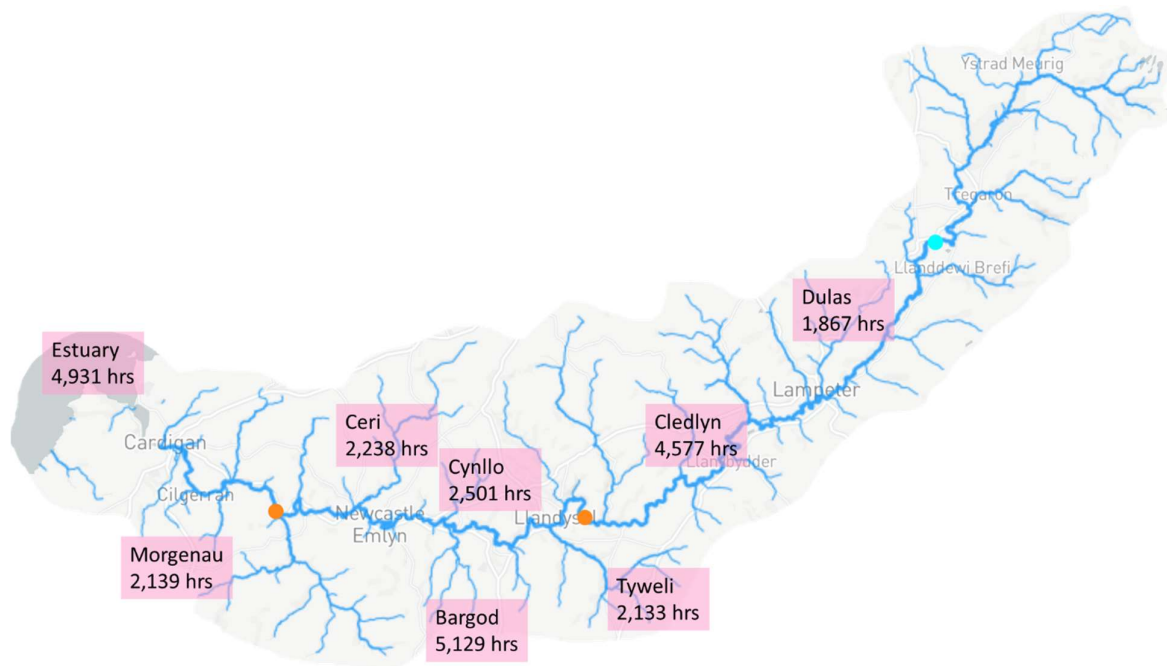


**Figure 2: 63 storm overflows discharged untreated sewage to the Teifi Catchment for 42,531 hours in 2022**

The Teifi headwaters, Teifi Estuary and River Teifi itself received discharges of untreated sewage for 24,030 hours, 4,931 hours and 13,569 hours respectively (TABLE 1) in 2022.

	Receiving WFD waterbody name	overflows	2022 Spill hours	
<b>TABLE 1</b>	Nant Arberth	1	90	
	Nant Bargod	2	5,129	
	<b>Headwaters to confluence with Teifi</b>	Afon Berwyn/Brennig	1	270
		Afon Brefi	2	145
		Afon Ceri - Dulas	1	2,238
		Nant Cledlyn	2	4,577
		Nant Clettwr	1	168
		Nant Creuddyn	1	25
		Afon Cych	1	861
		Afon Cynllo	1	2,501
		Afon Duar	1	4
		Afon Dulas	2	1,867
		Afon Grannell	2	769
		Afon Morgenau	1	2,139
	Afon Mwldan	2	32	
	Afon Piliau	1	685	
	Afon Siedi	1	400	
	Afon Tyweli	2	2,133	
	<b>River Teifi</b>	headwaters to confluence with Meurig	1	161
		confluence with Meurig to confluence with Brennig	1	1,875
		Afon Dulas to Afon Clettwr	6	1,845
		Afon Clettwr to Afon Ceri	9	5,656
		Afon Ceri to estuary	9	4,033
	<b>Teifi Estuary</b>		12	4,931
<b>Teifi Catchment</b>		63	42,531	

Clearly, some River Teifi tributaries undergo more significant untreated sewage exposure than others. **Fig. 3** highlights the streams and rivers in the SAC incurring significant spilling hours.



**Figure 3: River Teifi tributaries receiving significant hours of untreated sewage discharge in 2022**  
(Base map <https://nrfa.ceh.ac.uk>)

### Volumetric and cumulative exposure to untreated sewage in the Teifi Catchment

Without volumetric metering, it is not possible to differentiate discharges involving large or negligible amounts of untreated sewage. In England, the House of Commons Environmental Audit Committee’s recommendation<sup>11</sup> for volume meters to be fitted to all storm overflows was rejected and not included in the Environment Act (2022). The *Report on storm overflows in Wales*<sup>12</sup> encouraged the Welsh Government “to ensure that the **volume of discharges** is reduced as a matter of urgency”, but the *Environmental regulation of overflows: action plan*<sup>13</sup> made no reference to volume measurement, nor has the *Welsh Better River Water Quality taskforce*. Measurement of spill volume appears to have been taken off the political agenda.

It is possible to determine volumes of untreated sewage discharges at some treatment works as was demonstrated in a recent WASP report<sup>14</sup>. Mogden STW in West London, serving a population of over 2m, has discharged more than one billion litres of untreated sewage in a day on several occasions in recent years. The River Conwy in North Wales received 142 million litres of untreated sewage between 2020 and 2022. Recently, Scottish Water published volumetric spill data on 46 storm discharges. Despite protestations from water companies, it clearly is technically feasible.

While not being able to estimate spill volumes for the Teifi Catchment, it is possible to illustrate the cumulative nature of untreated sewage discharges by showing individual spills from each of the storm overflows. The chart in **Fig. 4** shows individual discharges of untreated sewage to the Teifi

<sup>11</sup> <https://committees.parliament.uk/publications/22190/documents/164546/default/>

<sup>12</sup> <https://senedd.wales/media/v4apg5wb/cr-ld15015-e.pdf>

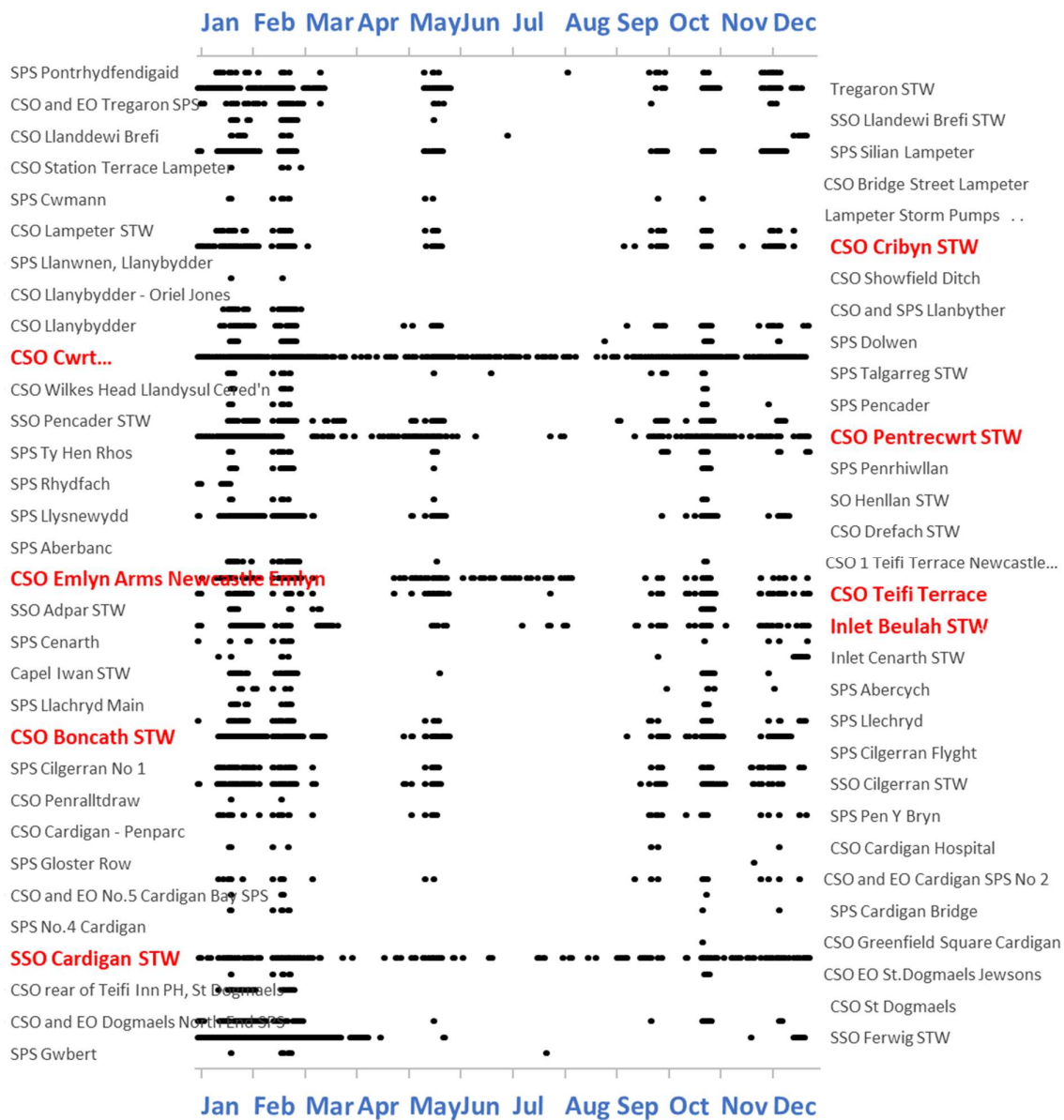
<sup>13</sup> <https://www.gov.wales/sites/default/files/pdf-versions/2022/7/2/1657032768/environmental-regulation-overflows-action-plan.pdf>

<sup>14</sup> [Effective regulation of untreated sewage discharges needs volumetric and catchment-based monitoring](#)

Catchment from 63 storm overflows in 2021. The chart demonstrates the cumulative effect of untreated sewage discharges in flows from the headwaters to the River Teifi estuary and Cardigan Bay with the concomitant exposure to cetacean marine life, especially dolphins, for which concern and evidence is growing<sup>15</sup>:

*Coastal waters close to urban centres are likely to be far more contaminated than the bathing beach waters used in the above exposure estimation. Therefore, it is likely that cetaceans living in coastal areas are likely to be exposed to even greater levels of pathogens<sup>16</sup>.*

Clearly, there is a sewage spilling season from mid-September through to March. But there are also obvious year-round spillers highlighted in red. Cardigan STW, in particular, deserves special attention as it will become clear that its operation and regulation have been poor for over a decade.



**Figure 4: individual discharges of untreated sewage to the Teifi Catchment in 2021**  
SSO=Settled Storm (Tank) Overflow; SPS=Sewage Pumping Station; CSO= Combined Sewer Overflow

<sup>15</sup> [https://www.abdn.ac.uk/sbs/documents/MPB\\_2007.pdf](https://www.abdn.ac.uk/sbs/documents/MPB_2007.pdf)

<sup>16</sup> The Conservation of British Cetaceans: A Review of the Threats and Protection Afforded to Whales, Dolphins, and Porpoises in UK Waters, Part 1. <https://docs.wind-watch.org/parsons2010a.pdf>

## Cardigan STW

Cardigan STW serves a population of over 7,000 and is operated by DCWW. It discharges to the River Teifi via a single outlet (Fig. 5) under permits issued by Natural Resources Wales (NRW) for treated effluent (BH0074101) and untreated storm sewage (BP0275401). The permits are downloadable from NRW's online Public Register<sup>17</sup>.

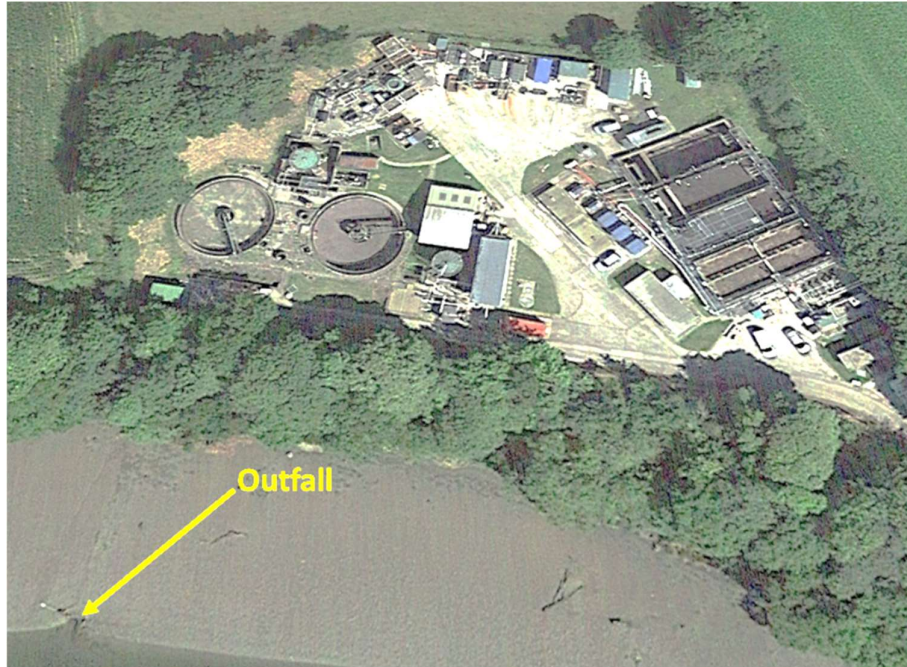


Figure 5: Cardigan STW with outfall for treated & untreated sewage discharges on the River Teifi waterline

NRW's 2023 bathing water quality profile for Poppit Sands at the mouth of the Teifi, says<sup>18</sup>:

*"The sewage treatment works uses ultra violet disinfection to provide a high quality effluent. This protects the quality of the bathing water. The discharge from the works is regulated by an Environmental Permit, setting strict physical, biological and chemical standards that must be met.*

*NRW have worked closely with Dŵr Cymru Welsh Water (DCWW) to improve compliance with the respective environmental permit and increase protection of bathing waters however, **NRW are aware of other ongoing issues affecting the compliance of the STW and are working with DCWW to implement a permanent solution.**"*

The *discharge* referred to above is the treated effluent, for which DCWW's own operator self-monitoring of quality does not appear to have failed testing. The *ongoing issues* referred to are the illegal untreated sewage spills and are explained below.

In 2004, at a cost of £7m, DCWW upgraded Cardigan STW to serve 16,000 and its trickling filter treatment system was replaced with an Immersed Membrane Bioreactors (IMBR) process<sup>19</sup>:

*"Selection of the IMBR process, which it was anticipated would meet a consent of 5 BOD: 5 SS: 5 NH3 allowed further increase in load of 20% above the requirements of AMP3, affording greater development potential for the Ceredigion County Council. The removal of the major contributor of*

<sup>17</sup> <https://publicregister.naturalresources.wales/>

<sup>18</sup> <https://environment.data.gov.uk/wales/bathing-waters/profiles/profile.html?site=uk1402-38630>

<sup>19</sup> [https://waterprojectsonline.com/wp-content/uploads/case\\_studies/2004/Cardigan-Catchment-Solution-2004.pdf](https://waterprojectsonline.com/wp-content/uploads/case_studies/2004/Cardigan-Catchment-Solution-2004.pdf)

*storm discharges in the catchment of the WwTW and the process easily achieving the new tighter discharge consent, gave much greater environmental benefits than that funded for under AMP3.”*

In November 2019, NRW categorised a permit breach at Cardigan STW as grade C2 (“could have a significant environmental effect”) and wrote:

*“Since July 2015 NRW and Dwr Cymru Welsh Water have been aware of issues at Cardigan where saline intrusion into the network is presenting a significant risk of damage to the MBRs of Cardigan Sewage Treatment Works (Permits BH0074101 and BP0275401) which will compromise the ability of the asset to treat sewage. To prevent damage to the asset, when the salinity of the incoming flows is deemed to be too high, untreated sewage is diverted to storm tanks until there is enough of a reduction in salinity of the incoming flows to allow the stored sewage to be passed through the works.*

*The use of storm tanks for this purpose is a breach of permit BP0275401. The loss of storm capacity has resulted in the works discharging untreated sewage in to the Teifi SAC and SSSI in breach of its permit (BH0074101).*

*A further concern is that there is currently no system in place for Event Duration Monitoring which meets the required standards.”* BH0074101\_CAR\_NRW0035767, NRW

NRW requested DCWW to provide by May 2020:

*“a plan of works to be undertaken in an agreed timescale to prevent the discharge of untreated sewage as a result of the works shutting down from high chloride levels”.*

### **Analysis of the performance of Cardigan STW in terms of illegal spilling of untreated sewage**

After Cardigan STW was brought to the attention of WASP by the Welsh Rivers Trust (*Afonydd Cymru*), an EIR (Environmental Information Regulation) request for sewage treatment and sewage spill data was submitted to DCWW in May 2023. In response, DCWW provided 15-min flow to full treatment (FFT) data and Event Duration Monitoring (EDM) records of start-stop times of individual discharges of untreated sewage from Cardigan STW.

The permits issued by NRW for Cardigan STW only require DCWW to report summary data annually: total daily volume of sewage treatment and total annual hours for untreated sewage discharges. The detailed data obtained from DCWW by WASP is only provided to NRW when specifically requested. The summary data that NRW ordinarily has access to is insufficient to check permit compliance in a detailed and comprehensive fashion.

The data provided by DCWW contained multiple sporadic gaps (examples in **Fig. 6** for 2020) and excessively frequent EDM<sup>20</sup> detected discharges of untreated sewage (example in **Fig. 7** for 2022). It is not clear if these gaps correspond to flow meter error or absence of sewage treatment. The latter could be explained by diversion of flow to temporary storm storage with subsequent treatment or by complete discharge of all untreated sewage to the River Teifi.

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<sup>20</sup> EDM = Event Duration Monitor – a device fitted to storm tank and other overflows to record when discharges start and stop.

### Cardigan-FFT-2020

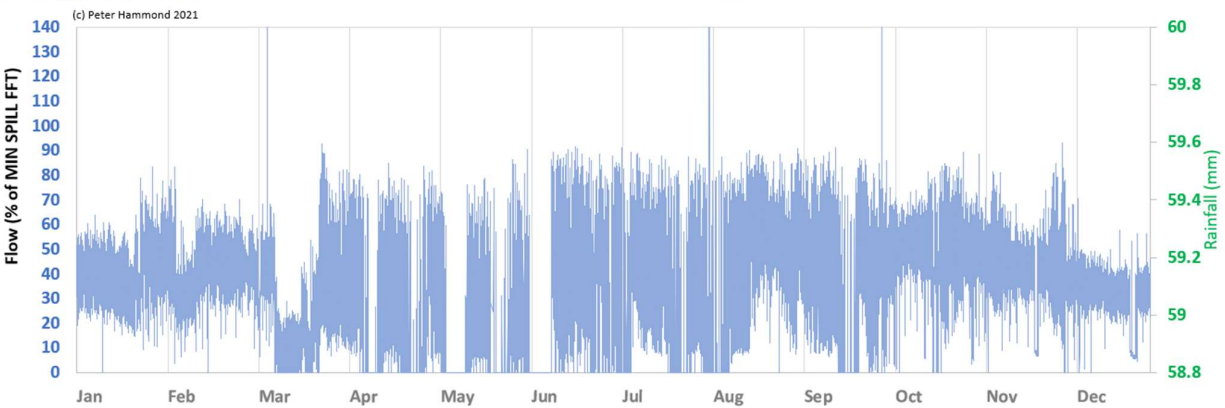


Figure 6: Sewage treatment data for 2020 shows sporadic gaps in April, May, June, July and September

### Cardigan-FFT-2022

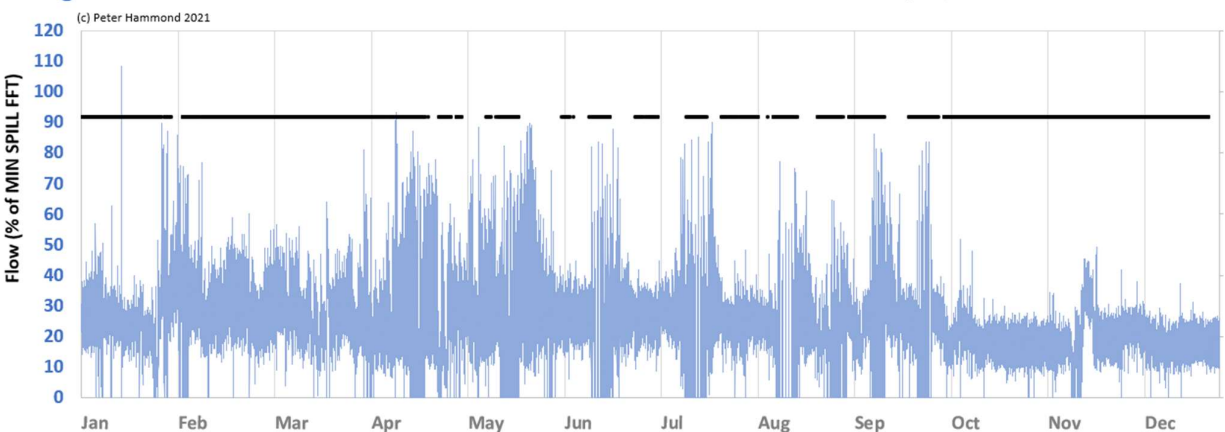


Figure 7: In 2022, there were untreated sewage discharges on 258 days as shown by the black horizontal segments in the chart representing spills detected by an EDM device

The data provided to WASP were so full of gaps and erratic behaviour that clarification was requested from DCWW to confirm that what had been provided was indeed correct. An email response from DCWW on July 26<sup>th</sup> 2023 offered the following explanation:

*“We can confirm that have sent the correct data for Cardigan WwTW.*

*The WwTW suffers with saline intrusion from the transitional section of the nearby Teifi river. The type of process on site (Membrane Bioreactor) becomes ineffective when the treatment process organisms are exposed to salt water. The organisms secrete a type of substance that blinds the membranes and reduces flow capacity and result in premature discharge events. This is exasperated during large spring tides. Storm flows discharge via storm storage tanks, the capacity of which has been increased in recent years in agreement with NRW in order to mitigate and reduce the storm discharge volumes.*

*DCWW has reported on flow compliance of Cardigan WwTW to NRW annually; NRW issued DCWW with an enforcement notice which we received in January 2020.*

*Between these two dates, DCWW have undertaken multiple efforts to resolve or mediate the issues within the catchment and wastewater treatment works, involving NRW. These include trying to remove the infiltration at source through extensive network surveys and investigations including one way valve replacements. Wastewater treatment mitigation has included actions such as increasing storm capacity at Cardigan (as mentioned above), installing a new storm screen, trialling and subsequently increasing the salinity levels in the works to reduce spill frequency. Despite these efforts,*



little success has been observed; therefore, the most effective resolution is to change the WwTW process.

*In accordance with the requirements of the enforcement notice issued in 2020, we have already undertaken a full feasibility study (which included using pilot plants to ensure options to treat sewerage with high levels of salinity) at the works and are currently designing the solution that is to be commenced in 2025; if DCWW are ready before this date, work will commence sooner. This capital solution for Cardigan has been budgeted at >£20M and will require extensive site process modifications and additions. Once these interventions are completed, we expect the site to return to full permit compliance.”*

The email above was received just hours before an online meeting between the author, Afon Cymru, NRW and DCWW to discuss preliminary data analysis. Subsequent notes of the meeting recorded by Afondd Cymru included the following about Cardigan STW:

1. It was confirmed that Prof Hammond’s analysis of Cardigan WWTW was correct
2. It was also confirmed that it had been operating this way for at least 7 years, with issues first identified in 2013.
3. The works suffered from saline intrusion and a number of unsuccessful interventions had been undertaken, including infiltration studies, new storm tank screening, increased storm tank capacity and new treatment processes.
4. The works had been subject to two enforcement notices by NRW for this period, but no prosecution had taken place.

Further analysis of the data has been undertaken since the meeting cited above. Detailed results are provided below. In the meantime, a useful headline is that between 1/1/2018 and 31/05/2023

**1,146 days involved unpermitted, and hence illegal, discharges of untreated sewage to the Teifi**

The yearly totals of days with illegal discharges of untreated sewage are shown in Table 2

TOTAL	2023	2022	2021	2020	2019	2018
1,146	77	258	257	228	276	50*

**Table 2** Number of days by year where WASP believes there were illegal discharges of untreated sewage  
\*spill occurrence estimated, otherwise spills are confirmed by EDM data

Without access to the sewage treatment and other data, it is not possible to say with certainty, but it appears that such illegal discharges of untreated sewage have been released to the Teifi Estuary for at least 10 years without prosecution.

## **DETAILED RESULTS FOR Cardigan STW**

### Conventions used in all charts (unless otherwise stated)

The **red** line (**MIN SPILL FFT**) represents capacity for the STW which defines the minimum treatment flow rate even when it is necessary to transfer excess inflow to a storm tank or allow overflow from a full storm tank to a watercourse.

The **pale blue** curve shows the rate at which sewage is passed to full treatment (FFT) as a proportion of capacity. It is assumed that NRW allows an 8% error on metered flow, as does the Environment Agency in England, so capacity is marked at 92% rather than 100%.

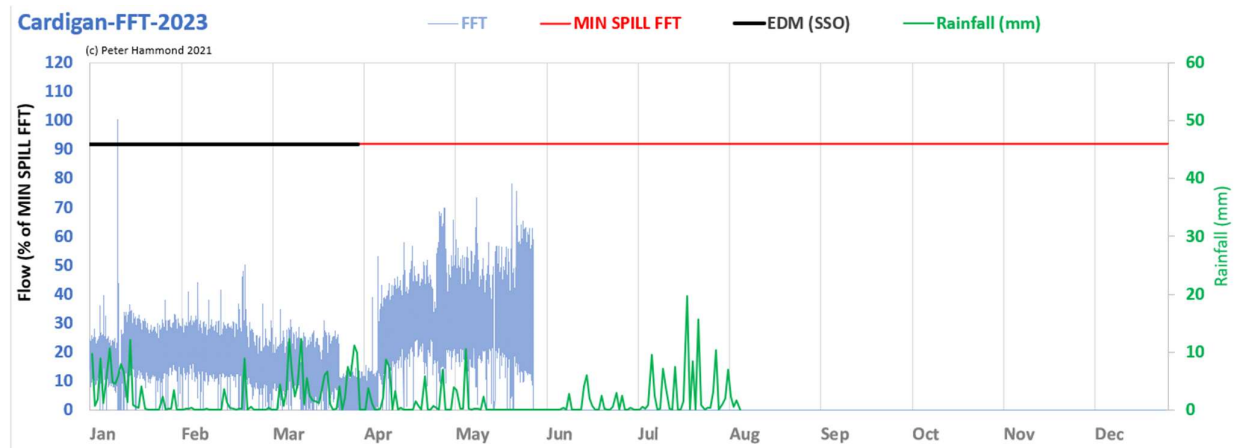
The **black** horizontal segments represent the extent of individual spills of untreated sewage from a storm tank or occasionally at the inlet to a sewage treatment works. Their vertical position is drawn at the 92% capacity level. During spills, therefore, the blue curve should always be above the black horizontal segments for it to be within permit. Otherwise, the spill is in breach of permit and is referred to here as “early”.

The **green** curve represents daily rainfall recorded by a local weather station. Spills are only permitted if they are due to rainfall and treatment flow is above capacity.

NRW is planning to introduce a rainfall threshold of 4 mm with respect to permitted untreated sewage discharges. In this report, a more conservative threshold is used and a spill is considered to be in breach of permit if it occurs with no rain at all on the day before or day of the spill. As far as is known, the EA in England is not planning such a specific rainfall threshold. This could mean, for the River Wye, for example, that different criteria for dry spilling might apply depending on the location of an STW in England or Wales – or even the location of the discharge outfall which potentially could be in a different country from the connected STW.

### 2023

The 2023 overview chart is shown in **Fig. 7**.



**Figure 7: overview chart for 2023**

Clearly, flow to full treatment (FFT- pale blue curve) never reaches capacity (red line) throughout spilling (black horizontal segment) as required by the NRW permit. Therefore, all discharges of untreated sewage are unpermitted and hence illegal.

There are also dramatic changes in treatment flow in April and sudden losses of flow in May (**Fig. 9**).

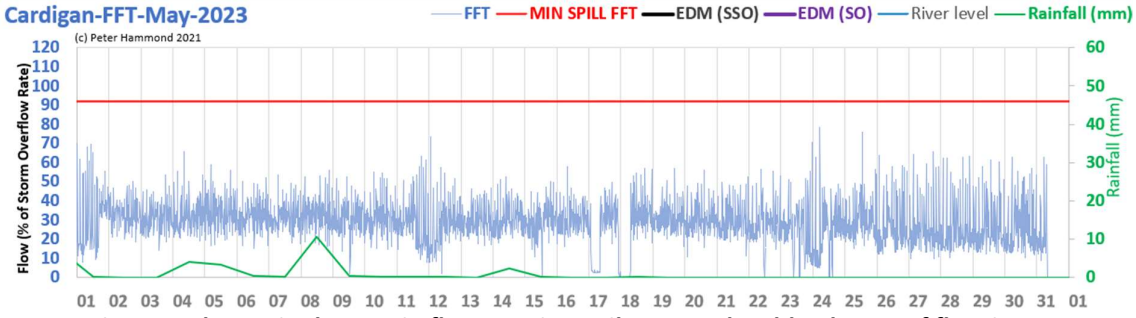
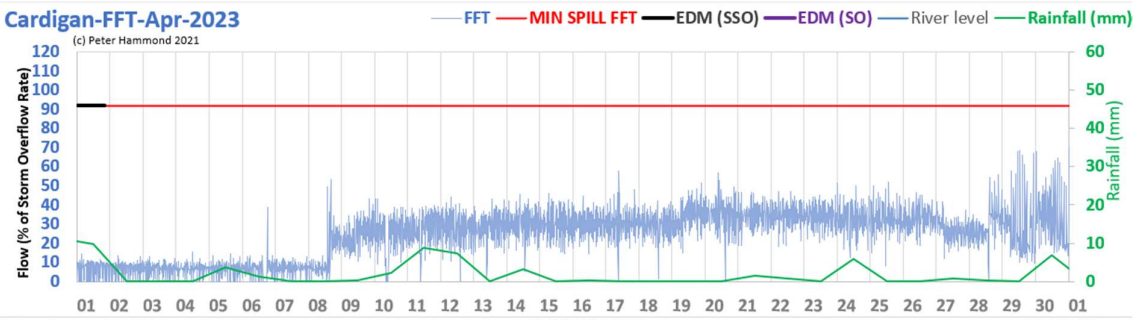


Figure 9: dramatic changes in flow rate in April 2023 and sudden losses of flow in May 2023

**2022**

The overview chart for 2022 is shown in Fig. 10

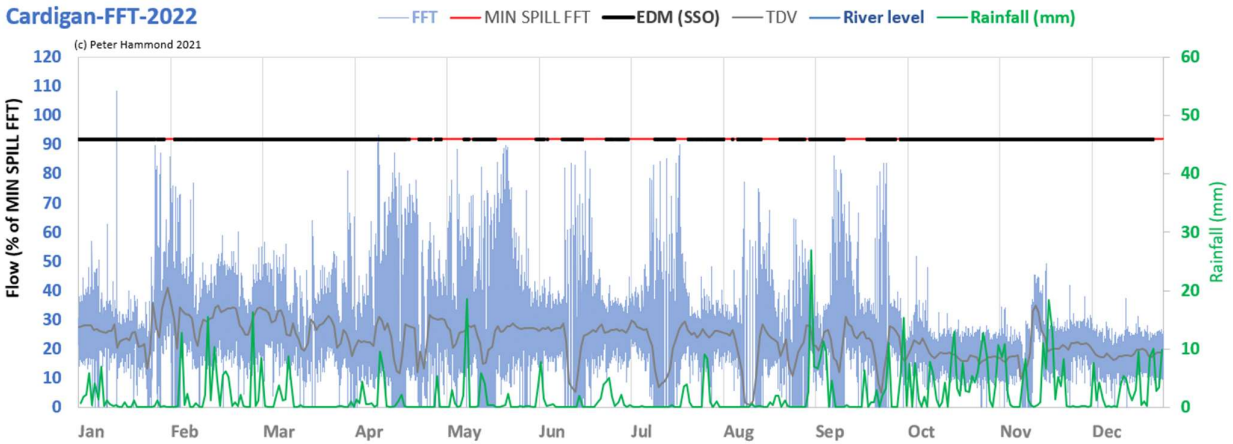


Figure 10: overview chart for 2022

Figure 10 also includes total daily volume of treated sewage (TDV) (grey curve) scaled to be relative to works capacity and so is equivalent to the average flow rate.

During each of the spills in 2022, capacity is never reached and so all are in breach of permit and hence illegal.

There is strange stuttering treatment flow when intermittently nothing appears to be treated - best seen at the monthly level (June and July 2022 below in Fig. 11).

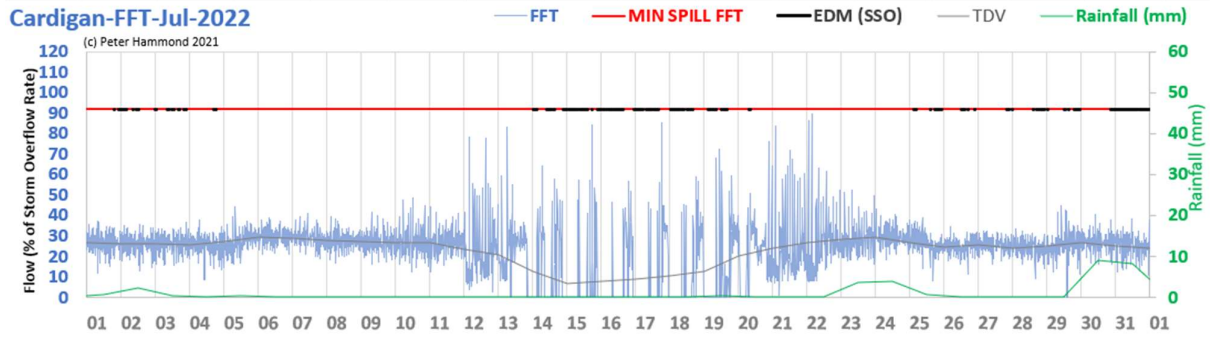
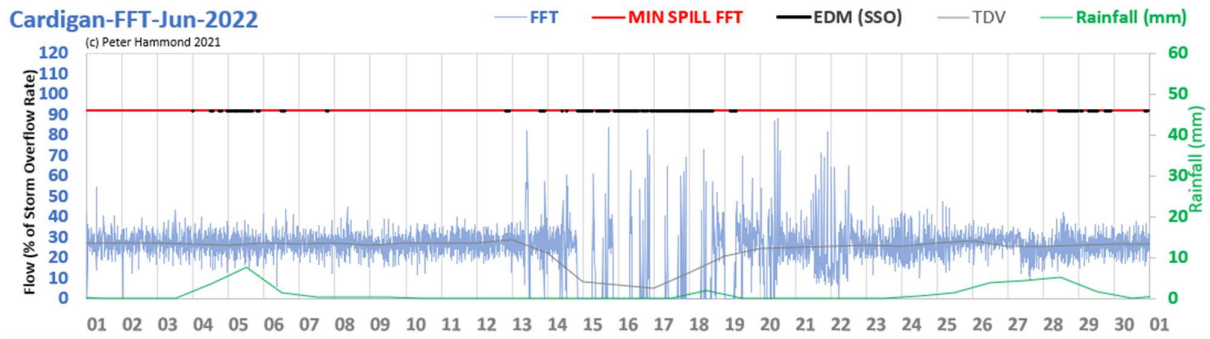
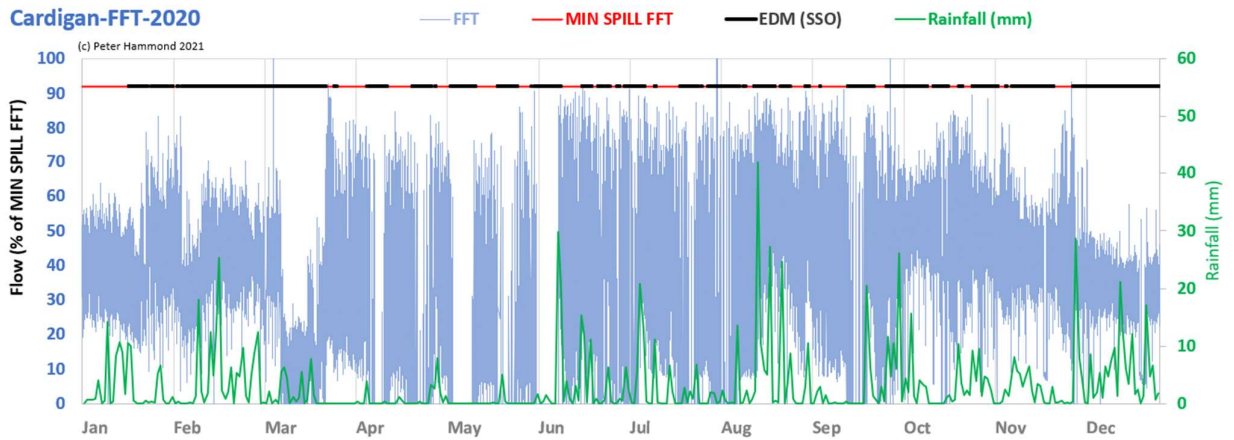
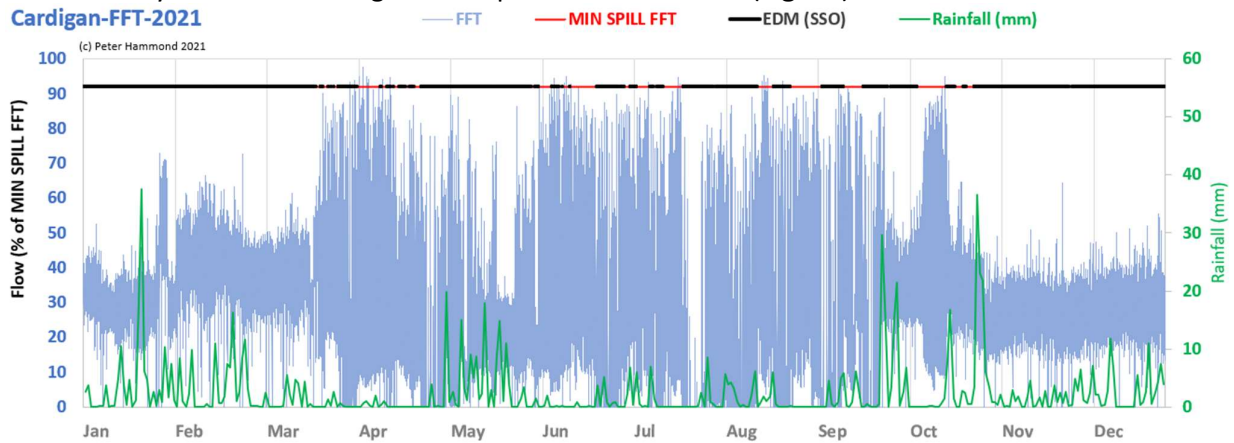


Figure 11: strange fluctuations in flow rate in the middle of both June and July 2022

### 2019-2021

The pattern of gaps and stuttering in treatment flows and frequent illegal spilling continues and is confirmed by EDM data throughout the period 2019 to 2021 (Fig. 12).



### Cardigan-FFT-2019

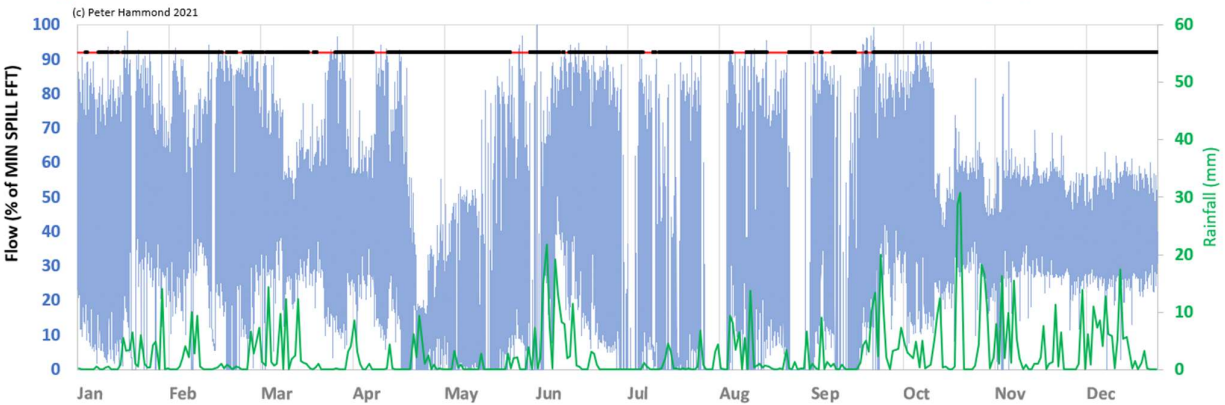
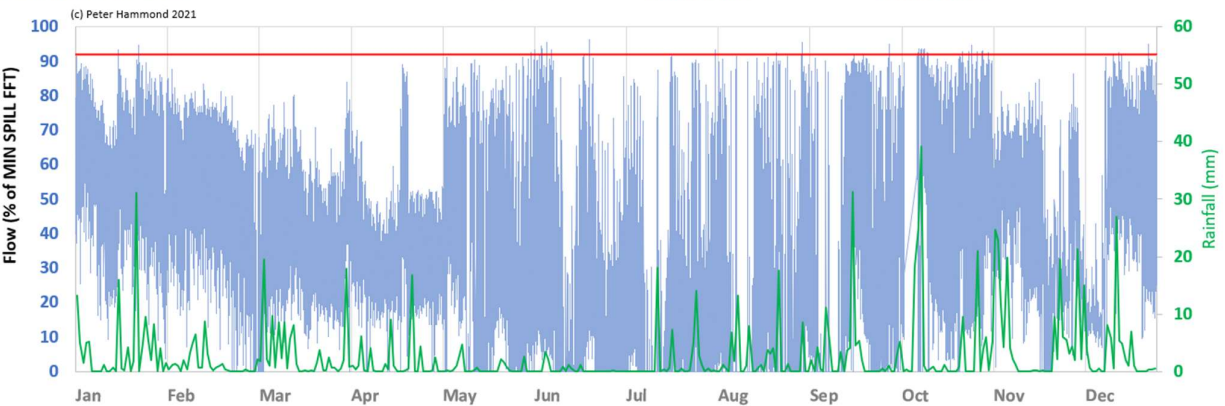


Figure 12: examples of gaps and stuttering treatment flow as well as extensive illegal spills in 2019-21

### 2017-2018

There was no EDM spill data provided by DCW to WASP for 2017 and 2018. Judging by the treatment flow data there were similar occurrences of gaps and stuttering throughout. Despite significant rainfall, the treatment flow is never displaced above the capacity of the STW. Therefore, any spills of untreated sewage that occurred will have been non-compliant and hence illegal (Fig. 13)

### Cardigan-FFT-2018



### Cardigan-FFT-2017

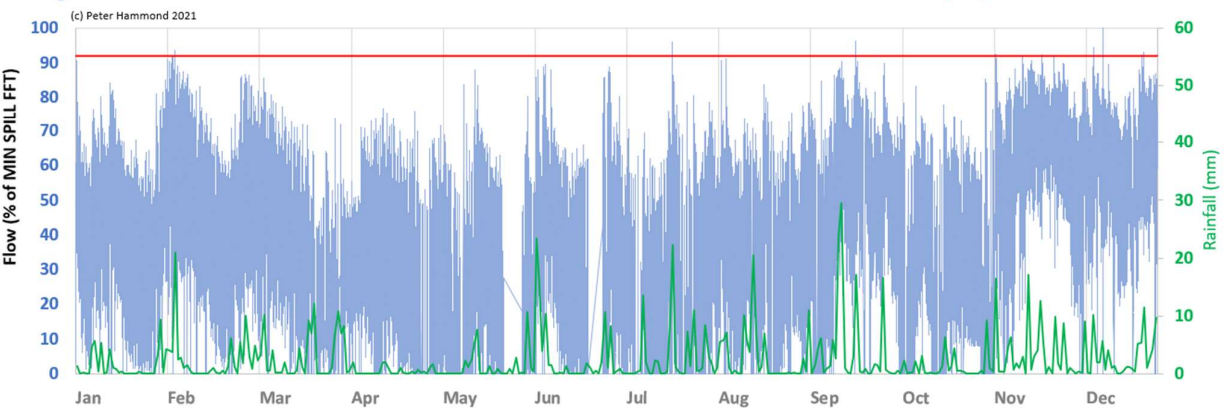


Figure 13: overview charts for 2017 and 2018 showing similar gaps and stutters in treatment flow

### **Beulah STW**

CAR\_NRW0037382 exceeding maximum flow due to infiltration

15-27 illegal “dry” spilling breaches

2021 15 (27) days with 0 (4) mm rainfall as threshold

### **Tregaron STW**

9-17 illegal “dry” spilling breaches

2020 5 (10) illegal “dry” spilling days with 0 (4) mm rainfall as threshold

2021 4 (7) illegal “dry” spilling days with 0 (4) mm rainfall as threshold

### **Cilgerran STW**

2020 2 (6) illegal “dry” spilling days with 0 (4) mm rainfall as threshold

2021 0 (2) illegal “dry” spilling days with 0 (4) mm rainfall as threshold

### **Capel Iwan STW**

2020 3 (5) illegal “dry” spilling days with 0 (4) mm rainfall as threshold

2021 0 (0) illegal “dry” spilling days with 0 (4) mm rainfall as threshold

### **Tywyn STW PE 3,323 FFT 58 l/s Inlet 159 l/s**

2020 No “dry” spilling days ; unable to test for “early” spilling days

Up to 159 million litres of untreated sewage discharged via storm tanks in 439 hours

2021 6 (8) illegal spilling days with 0 (4) mm rainfall as threshold

Up to 89 million litres of untreated sewage discharged via storm tanks in 245 hours

2022 19 illegal early spilling days

62.8 million litres of untreated sewage discharged via storm tanks in 103 hours

2023 No illegal spills

62.8 M litres of untreated sewage discharged via storm tanks in 179 hours